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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,554	11/29/2001	Timothy J. Whited	14105	5253

7590 06/20/2003
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EXAMINER

TO, TOAN C

ART UNIT	PAPER NUMBER
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3616

DATE MAILED: 06/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/997,554

Applicant(s)

WHITED ET AL.

Examiner

Toan C To

Art Unit

3616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 13, 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Recitation "weighs between about one quarter of a kilogram and about four kilograms" is unclear.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3-10, 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Petersen (U.S.5860,672).

Petersen discloses an airbag restraint module with the following: an inflatable cushion (38) defining a mouth (54) for receiving inflation fluid; a housing (42) configured to retain the inflatable cushion (38) when the cushion (38) is in a folded state; an inflation fluid source (44), having a proximal end and a distal end, attached to the

Art Unit: 3616

housing (42) and in communication with the inflatable cushion (38), a majority of the inflation fluid source (44) positioned adjacent to or within the housing (42); and a retaining collar (32) defining an opening (26), the retaining collar (32) positioned to retain the inflatable cushion (38) in communication with the inflation fluid source (44).

As to claim 3, Petersen discloses an airbag restraint module with the following: wherein the inflation fluid source (44) is disc-shaped.

As to claim 4-5, Petersen discloses an airbag restraint module with the following: wherein the inflation fluid source (44) comprises an attachment flange (52) extending orthogonally outward from an outer surface (48) of the inflation fluid source (44); the attachment flange (52) is positioned adjacent the proximal end of the inflation fluid source (44).

As to claim 6, Petersen discloses an airbag restraint module with the following: wherein a majority of the inflation fluid source (44) is between the distal end of the inflation fluid source (44) and the attachment flange (52).

As to claim 7, Petersen discloses an airbag restraint module with the following: wherein between about one third and about one seventh of the height of the inflation fluid source (portion of the inflator 44 from flange 52 to top surface of the inflator 44) extends outwardly from the attachment flange (52).

As to claim 8, Petersen discloses an airbag restraint module with the following: wherein between about one fifth of the height of the inflation fluid source (portion of inflator 44 from flange 52 to bottom surface of the inflator) extends outwardly from the attachment flange (52).

As to claim 9, Petersen discloses an airbag restraint module with the following:
wherein the inflation fluid source comprises a plurality of openings (50) spaced about an outer surface of the inflation fluid source (44) through which inflation fluid is directed out of the inflation fluid source.

As to claim 10, Petersen discloses an airbag restraint module with the following:
wherein the inflation fluid source comprises a pyrotechnic generant (see column 5, lines 33-35) that produces inflation fluid upon ignition.

As to claim 15, Petersen discloses an airbag restraint module with the following:
wherein the retaining collar (32) includes an annular flange (28) flaring outwardly away from the opening (50) thereby directing the inflation fluid source into the cushion (38).

As to claim 16, Petersen discloses an airbag restraint module with the following:
wherein the mouth of the inflatable cushion (38) is substantially circular.

As to claim 17, Petersen discloses an airbag restraint module with the following:
wherein the inflation fluid source (44) comprises a substantially cylindrical portion configured to fit within the mouth of the inflatable cushion (38).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Petersen in view of Jarboe et al (U.S. 5,511,818).

Petersen discloses every element of the invention as discussed above in claim 1, but does not directly disclose the housing which is substantially cylindrical in shape.

Jarboe et al teaches the invention wherein the inflator (18) is attached to the cylindrical housing (12). It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the housing of Petersen by cylindrical housing as taught by Jarboe et al in order to prevent the inflator and folded airbag from being damaged when they are not in use.

7. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petersen in view of Ludwig et al (U.S. 6,474,684).

Petersen discloses every element of the invention as discussed above in claim 1, but fails to directly disclose the inflation fluid source produces at least about 80 liters of inflation fluid volume or at least about 120 liters of inflation fluid volume, and the inflation fluid source weighs between about one kilograms.

Ludwig et al teaches the invention with the following: wherein, the inflation fluid source produces at least about 80 liters of inflation fluid volume or at least about 120 liters of inflation fluid volume (see column 1, lines 36-49). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the airbag restraint module of Petersen by replacing his inflator by the inflator as taught by Ludwig et al in order to a sufficient amount of fluid for protecting occupant upon collision.

As to claims 13-14, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the airbag restraint module of Petersen to have an inflation fluid source weighs about one kilogram in order to facilitate mounting arrangement of the inflator within various locations inside the vehicle compartment.

8. Claims 18-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petersen in view of Jarboe et al (U.S. 5,511,818).

As to claim 18, Petersen discloses an airbag restraint module with the following: an inflatable cushion (38) defining a circular mouth for receiving inflation fluid; a housing (42) configured to retain the inflatable cushion (38) in a folded state; an fluid source (44) having an attachment flange (52) extending substantially orthogonally outward from a an outer surface of the inflation fluid source (44), the inflation fluid source (44) having a proximal end and a distal end, the inflation fluid source being attached to the housing (42) and in communication with the inflatable cushion (38), the inflation fluid source (44) having a cylindrical portion with openings (50) spaced about an outer surface of the cylindrical portion; and a retaining collar (32) defining an opening (26), the retaining collar (32) positioned about the inflation fluid source (44) and adjacent an inner surface of the inflatable cushion (38) to retain the inflatable cushion (38) in communication with the inflation fluid source (44).

As to claim 19, Petersen discloses an airbag restraint module with the following: wherein the inflation fluid source (44) is positioned substantially within the housing.

As to claim 20, Petersen discloses an airbag restraint module with the following: wherein the attachment flange (52) is positioned adjacent the proximal end of the inflation fluid source (44).

As to claim 21, Petersen discloses an airbag restraint module with the following: wherein a majority of the inflation fluid source (44) is between the distal end of the inflation fluid source and the attachment flange (52).

As to claim 22, Petersen discloses an airbag restraint module with the following: wherein between about one third and about one seventh of the height of the inflation fluid source (44) extends outwardly from the attachment flange (52).

As to claim 23, Petersen discloses an airbag restraint module with the following: wherein between about one fifth of the height of the inflation fluid (44) source extends outwardly from the attachment flange (52).

As to claim 24, Petersen discloses an airbag restraint module with the following: wherein the inflation fluid source comprises a pyrotechnic generant (see column 5, lines 33-35) that produces inflation fluid upon ignition.

As to claim 25, Petersen discloses an airbag restraint module with the following: wherein the retaining collar (32) includes an annular flange (28) flaring outwardly away from the opening (50) thereby directing the inflation fluid source into the cushion (38).

As to claim 26, Petersen discloses an airbag restraint module with the following: wherein an outer edge of the flange (28) extends axially beyond inflation fluid source openings (50) within an outer surface of the inflation fluid source thereby deflecting the inflation fluid as it exits the inflation fluid source (44).

Petersen discloses every element of the invention as discussed above, but does not directly disclose the housing which is substantially cylindrical in shape.

Jarboe et al teaches the invention wherein the inflator (18) is attached to the cylindrical housing (12). It would have been obvious to one having ordinary skill in the art the time the invention was made to replace the housing of Petersen by cylindrical housing as taught by Jarboe et al in order to prevent the inflator and folded airbag from being damaged when they are not in use.

9. Claims 18, 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petersen and Jarboe et al and further in view of Ludwig et al (U.S. 6,474,684).

Petersen in view of Jarboe et al disclose or teach every element of the invention as discussed above, but fails to directly disclose or teach the inflation fluid source produces at least about 80 liters of inflation fluid volume or at least about 120 liters of inflation fluid volume, and the inflation fluid source weighs between about one kilograms.

Ludwig et al teaches the invention with the following: wherein, the inflation fluid source produces at least about 80 liters of inflation fluid volume or at least about 120 liters of inflation fluid volume (see column 1, lines 36-49). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the airbag restraint module of Petersen by replacing his inflator by the inflator as taught by Ludwig et al in order to a sufficient amount of fluid for protecting occupant upon collision.

As to claims 29-30, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the airbag restraint module of Petersen to have an inflation fluid source weighs about one kilogram in order to facilitate mounting arrangement of the inflator within various locations inside the vehicle compartment.

10. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Petersen and Jarboe et al and further in view of Ludwig et al (U.S. 6,474,684).

Petersen discloses an airbag restraint module with the following: an inflatable cushion (38) defining a circular mouth for receiving inflation fluid; a housing (42) configured to retain the inflatable cushion (38) in a folded state; an fluid source (44) having an attachment flange (52) extending substantially orthogonally outward from a an outer surface of the inflation fluid source (44), the inflation fluid source (44) having a proximal end and a distal end, the inflation fluid source being attached to the housing (42) and in communication with the inflatable cushion (38), the inflation fluid source (44) having a cylindrical portion with openings (50) spaced about an outer surface of the cylindrical portion; and a retaining collar (32) defining an opening (26), the retaining collar (32) positioned about the inflation fluid source (44) and adjacent an inner surface of the inflatable cushion (38) to retain the inflatable cushion (38) in communication with the inflation fluid source (44).

Petersen discloses every element of the invention as discussed above, but does not directly discloses the housing which is substantially cylindrical in shape, and the inflation fluid source produces at least about 120 liters of inflation fluid volume.

Jarboe et al teaches the invention wherein the inflator (18) is attached to the cylindrical housing (12). It would have been obvious to one having ordinary skill in the art the time the invention was made to replace the housing of Petersen by cylindrical housing as taught by Jarboe et al in order to prevent the inflator and folded airbag from being damaged when they are not in use.

Ludwig et al teaches the invention with the following: wherein, the inflation fluid source produces at least about 120 liters of inflation fluid volume (see column 1, lines 36-49). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the airbag restraint module of Petersen by replacing his inflator by the inflator as taught by Ludwig et al in order to a sufficient amount of fluid for protecting occupant upon collision.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure includes the following: Swan et al (U.S. 6,149,192), Taguchi et al (U.S. 5,505,483), Soderquist (U.S. 5,678,848), and Muir et al (U.S. 6,126,197) disclose an airbag module having inflator that provides inflation fluid to inflate an airbag cushion. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan To whose telephone number is (703) 306-5951. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson, can be reached on (703) 308-2089. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-2571.

Application/Control Number: 09/997,554

Page 11

Art Unit: 3616

Any inquiry of a general nature or relating to the status of this application or this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-1113.

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June 13, 2003